

REMARKS/ARGUMENTS

This Amendment is in response to the Office Action dated April 22, 2004. Claims 2-8, 11-13, 15, 16, 18-22, and 26-31 are pending. Claims 6 and 15 and 16 have been amended. Accordingly, claims 2-8, 11-13, 15, 16, 18-22, and 26-31 remain pending in the present application.

The Examiner rejected claims 6 and 15-16 under 35 USC §112, second paragraph, as being indefinite. In response, claim six has been amended to be dependent from claim 28, and claims 15-16 have been amended to recite "said" final flash energy, as suggested by the Examiner.

Applicant acknowledges and appreciates Examiner's indication that claims 7, 8, 11, 12, 15, 22, 26 and 27 would be allowable if rewritten in independent form to include the limitation of the base claim and any intervening claim.

The Examiner rejected claims 2-8, 11-13, 15-16, and 28-31 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-4 of US Patent Number 6,151,073, issued to Steinberg et al., on November 21, 2000. In response, a terminal disclaimer in compliance with 37 CFR 1.321 (c) is submitted herewith to overcome the rejection.

The Examiner rejected claims 29 and 31 under 35 USC §103(a) as being unpatentable over Takagi (US 5,218,397) in view of Koshiishi (US 5,229,856). The Examiner also rejected claims 29 and 31 under 35 USC §103(a) as being unpatentable over Hara et al. (US 5,218,397) in view of Koshiishi (US 5,229,856). Examiner rejected claims 28, 2-6, 13, 29, 16, 30, 18-21, and 31 under 35 USC §103 (a) as being unpatentable over Takagi et al. (US 5,371,568) in view of Koshiishi (US 5,229,856). Applicant respectfully disagrees.

The present invention provides a digital camera that uses a pre-flash in combination with digital camera image acquisition and processing for determining an optimal flash power to use for the current scene. Each time the digital camera is to take a flash picture, the camera activates a low-energy flash, captures an image of the subject, analyzes the intensity data in the image to determine a flash degree of exposure, calculates a final flash energy level to achieve the correct degree of exposure, and then activates the flash at the final flash energy level to take the picture.

It is respectfully submitted that the primary references cited by the Examiner are similar to the references described in applicant's Background of the Invention in that both Takagi ('397 and '568) and Hara fail to teach or suggest "grabbing" or capturing an image with a pre-flash, and then "analyzing the intensity data" of the captured image to determine a flash degree of exposure, as recited in claims 28-31.

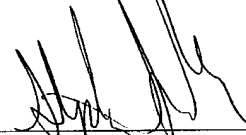
In contrast, the primary references issue a pre-flash, but then examine light *reflected* from either the object illuminated by the pre-flash or the film surface, prior to taking the picture. Thus, the references fail to teach determining a final flash degree by *capturing an image and analyzing the image*. Because both Takagi and Hara are film-based cameras, they are incapable of capturing digital images and analyzing the data therein. And even if the camera's of Takagi and Hara exposed their film with the pre-flash, there is no teaching on how these cameras would analyze the exposed film to determine a flash setting that would yield the correct exposure. The Examiner seems to acknowledge that the references teach analyzing reflected light, rather than analyzing values of a captured image by admitting that in Hara "the intensity value *reflected from the object* is mainly analyzed by the device for with the use of CPU 31 and exposure circuit 34" (OA pg. 8 - discussion of step (c)).

The Examiner further admits Takagi and Hara fail to disclose the use of a flash with a digital camera, but that using a flash with a digital camera is notoriously well-known as

evidenced by Koshiishi. It is respectfully submitted, however, that the cited references do not suggest (expressly or by implication) combining the teaching of the references to produce the present invention as claimed. Instead, combination of the references would produce a digital camera as in Koshiishi that issues pre-flashes to determine a main flash (Takagi and Hara), but the digital camera would analyze reflected light from the pre-flashes in order to determine the main flash. The camera would fail to automatically adjust a flash prior to taking a picture by activating one or more pre-flashes, capturing an image corresponding to each pre-flash, and analyzing the corresponding image data in order to determine the final flash for taking the picture, as claimed, in independent claims 28-31.

In the absence of any teaching or suggestion to the contrary, Applicants' attorney believes this application in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicants' attorney at the telephone number indicated below.

Respectfully submitted,
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Date